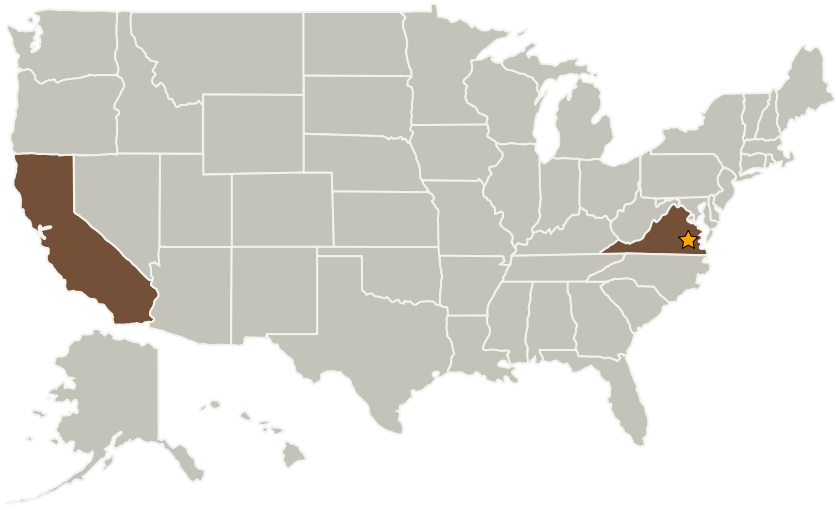
An Advanced Open-Source Aircraft Design Platform for Personal Air Vehicle Geometry, Aerodynamics, and Structures, Phase I

Completed Technology Project (2006 - 2007)

Project Introduction

Innovators working to revolutionize air travel through personal aviation pioneers need innovative aircraft design tools. Vehicle Sketch Pad (VSP) is an aircraft geometry tool for rapid evaluation of advanced design concepts. VSP will be extended to include support for the modeling of aircraft structural layout and a modular system for integrating engineering analyses. These modifications will allow VSP to unify geometry, aerodynamics, and structures in the early design of advanced concepts. VSP will be released as open-source; a community for its development will be initiated and fostered. Open distribution will ensure that VSP is available to all, thereby supporting personal aviation innovators, universities, NASA, and the whole aerospace industry. This will enable a new level of fidelity and accuracy in personal aircraft design needed to meet the aggressive goals required for the success of personal air vehicles. An improved and open VSP will catalyze personal aviation by supporting breakthroughs in noise and cost reduction and ease of operations.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Langley Research Center(LaRC)	Lead Organization	NASA Center	Hampton, Virginia

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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California	Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

James Gloudemans

Technology Areas

Primary:

- TX15 Flight Vehicle Systems
  - TX15.1 Aerosciences
    - TX15.1.6 Advanced Atmospheric Flight Vehicles